

## REMARKS

Claims 1-11 and 13-97 are pending in this application. By this amendment, claim 12 is cancelled, claims 1-11 and 13-23 are amended and new claims 24-97 are added. Reconsideration of the application is respectfully requested.

Applicants respectfully submit that the above-outlined amendments to claims 1-11 and 13-23 are not required to overcome the grounds for rejection set forth in the April 28, 2004 Office Action, for at least the reasons set forth below. Applicants respectfully submit the amendments were made to obviate inconsistent claim terminology, clarify and make explicit relationships between various recited elements, use consistent terminology in preambles, and remove non-grammatical constructs in the claim language. The claims were also amended to eliminate unnecessary features and limitations in the claims, thus broadening their scope.

Moreover, applicants respectfully submit that none of the amendments outlined above in any way narrows the claims relative to the scope such claims would have been afforded without amendment.

Pages 2 and 3 of the Office Action reject claims 1-11 and 13-23 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent 5,096,596 to Hellenbrand et al. The rejection is respectfully traversed.

Hellenbrand discloses processes and apparati for removing mineral contaminants from water that use a two-tank system to aerate water containing mineral contaminants to cause such contaminants to precipitate and to filter such precipitated mineral contaminants from the water. In particular, as shown in Figs. 1-6 and as described throughout the specification of Hellenbrand, the system includes a controller 63 having a rotating cam and valve piston assembly 65 and a pair of rotating cams 69. The valve piston 65 moves in and out of a filter valve 64 and controls

the flow of water from a pick-up tube 36, which extends out of an outlet 40 of the aeration tank 24 to the filter valve 64 via a connector tube 42.

The path of water flow through the filter valve 64 depends on the position of the valve piston 65, as shown in Figs. 1, 2 and 3. When the valve piston 65 is fully retracted from the filter valve 64, water is allowed to flow into the filter valve 64, through an inlet 44 of the filter tank 46, and out through the main outlet 66. When the piston rod 65 is fully inserted into the filter valve 64, while water continues to flow into the filter valve 64, the water now flows down the distributor tube 60 and out the inlet 44, and subsequently through the drain tube 70. This is shown in greater detail in Fig. 2. When the valve piston 65 is partially inserted into the filter valve, as shown in Fig. 3, water does not flow into the filter valve 64 through the connector tube 42. Rather, water flows from the drain valve 72 into the filter valve 64 and is subsequently discharged through the drain tube 70.

As also shown in Figs. 1-6, depending on the positions of the cams 69, the drain valve 72 and the air recharge valve 78 are intermittently turned on to allow water to flow up the bleed-off tube 74 to the drain valve 72 or to allow air to flow from the air pump or canister of compressed gas 86, through the check valve 84 and the air recharge valve 78, through the air tube 80 and into the air head 30 of the aeration tank 24.

In particular, as is clearly shown in Figs. 1-6 of Hellenbrand, the air recharge valve 78 is connected between the air pump or canister of compressed gas 86 and the aeration tank 24, but is not otherwise connected to, nor does it affect the operation of, either the filter valve 64 or the drain valve 72. The drain valve 72 is connected between the bleed-off tube 74 and an inlet of the filter valve 64 to allow water and/or gas to pass from the aeration tank 24, through the bleed-off tube 74, through the drain valve 72, and into an inlet of the filter valve 64, and from the filter

valve 64 to the drain tube 70. Operation of the drain valve 72 neither affects nor depends upon operation of either the air recharge valve 78 or the filter valve 64.

Finally, the filter valve 64 is connected between the connector tube 42, the inlet 44, the distributor tube 60, the main outlet 66, the drain tube 70, and the outlet of the drain valve 72. However, operation of the filter valve 64 neither affects nor controls operation of the drain valve 72 or the air recharge valve 78, nor is the operation of the filter valve 64 affected or controlled by operation of either the drain valve 72 or the air recharge valve 78. That is, operation of each of the filter valve 64, the drain valve 72, and the air recharge valve 78 depends only upon operation of the valve piston 65 or the corresponding cam 69, respectively.

However, notwithstanding the above-outlined operation of Hellenbrand's system as clearly disclosed in the '596 patent, page 2 of the Office Action asserts that the drain tube 70 is part of the aeration tank 24, when it is clearly associated with the filter valve 64 on the filter tank 46. Likewise, while the air recharge valve 78 is connected to a source of compressed gas, the air recharge valve 78 cannot act as the claimed first valve, as there is no valve in Hellenbrand that is downstream of the recharge valve 78; nor does recharge valve 78 have a first position that connects the source of compressed oxidizing gas to a second valve such that the second valve is displaced by gas pressure from the source of compressed oxidizing gas to a first position to open a second flow passage between the source of compressed oxidizing gas and the aeration tank. Rather, when the air recharge valve 78 is opened, the compressed gas provided by the air pump or canister of compressed gas 86 is directly and uninterruptedly introduced into the aeration tank 24. Moreover, notwithstanding the assertion at the bottom of page 2, the drain valve 72 is not connected to the source of compressed gas or the air recharge valve 78. Thus, the drain valve 72

does not open or otherwise provide for a flow passage between the source of compressed gas and the aeration tank.

Similarly, bridging pages 2 and 3, the Office Action asserts that the filter valve 64 is operated by the opening of, presumably, the drain valve 72 to connect the interior of the aeration tank [sic--to the drain]. While the filter valve 64 arguably connects the pick-up tube 36 to the drain tube 70, albeit quite indirectly, the filter valve 64 is in no way operated by opening the drain valve 72. Rather, as even a cursory examination of Figs. 1-6 of Hellenbrand shows, operation of the filter valve 64 is completely independent of the operation of the drain valve 72.

While the controller 63 is a controller that controls the flow of water and air through Hellenbrand's system by automatically adjusting the positions of the valves 64, 72 and 78, this is not a feature that is, in any way, shape or form, recited or claimed in any of the pending claims. Rather, the claims clearly set forth that the timer is operatively connected to the first valve and the source of compressed oxidizing gas or a gas source. The claims provide no recitation regarding the connection of the other valves to the controller. Moreover, because the controller 63, via the cams 69, controls the drain valve 72 and the air recharge valve 78, Hellenbrand does not teach or disclose any of the features regarding the operation of the second and third valves recited in the various claims.

Finally, notwithstanding the assertion set forth in the Office Action, that the valve piston 65 is a bias member, the valve piston 65 does not bias any element of the filter valve 64 or any aspect of the drain valve 72 or the air recharge valve 78. Rather, the valve piston 65 merely opens and closes various portals and inlets within the filter valve 64 to the flow of water and/or gas. There is no teaching, disclosure or suggestion in Hellenbrand that the valve piston 65 in any way biases any portion of the system 20.

Applicants further note that, although all of the claims pending at the time of examination, i.e. claims 1-23, are rejected, the Office Action fails to provide any analysis whatsoever of the subject matter of claims 2-8, 10, 11 or 14-23. That is, none of the features specifically recited in these claims are in any way discussed or mentioned in the Office Action. Additionally, there is no analysis comparing the teachings of Hellenbrand to the features recited in these claims. Furthermore, the Office Action also fails to provide a full and complete analysis of at least the last paragraph of claim 1, the solenoid or valve stem features of claim 9, or the last paragraph of claim 13. Moreover, while the Office Action has purported to analyze at least some of the other features of claims 1, 9 and 13, the Office Action fails to do more than recite the exact wording of certain portions of claims 1, 9 or 13, and set forth an element number of Hellenbrand that is apparently purported as being equivalent to the recited claim features. However, there is no discussion of what teachings or disclosures are set forth in Hellenbrand relative to the identified element numbers, the meaning of such disclosures to one of ordinary skill in the art, or how those disclosures, properly interpreted, render obvious to one of ordinary skill in the art the corresponding claim features.

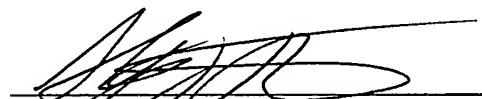
Accordingly, the Office Action violates the substantive and procedural due process which the Office is supposed to accord applicants via the Administrative Procedures Act. See in this regard, In re Zurko, 119 S.Ct. 1816, 50 U.S.P.Q. 2d 1930 (1999), and In re Gartside, 53 U.S.P.Q. 2d 1796 (Fed. Cir. 2000). That is, because the Office Action fails to provide a *prima facie* case of obviousness nor a reviewable record upon which the Board can determine the sufficiency and appropriateness of the grounds for rejection, the Office Action fails to accord the applicants sufficient due process, as required by Zurko and fails to provide a *prima facie* case of obviousness to which the applicants need respond.

Because substantially all of the features of claims 1, 9 and 13 asserted in the Office Action to be taught by Hellenbrand are, in fact, in no way taught, disclosed or suggested by any disclosure of Hellenbrand, and because the Office Action fails to even discuss all of the features of claims 1, 9 and 13, or the features recited in claims 2-8, 10, 11 or 14-23, Hellenbrand fails to teach, disclose or suggest all of the features recited in claims 1-11 and 13-23. Nor, for the reasons outlined above, has the Office Action even established a *prima facie* case of obviousness. Thus, Hellenbrand fails to render obvious the subject matter of any of claims 1-11 and 13-23. Withdrawal of the rejection of claims 1-11 and 13-23 as unpatentable over Hellenbrand under 35 U.S.C. § 103(a) is respectfully solicited.

For at least the reasons outlined above, applicants respectfully submit the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-11 and 13-97 is respectfully solicited.

Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



Theodore J. Long 20648  
Stephen J. Roe 34465  
LATHROP & CLARK LLP  
740 Regent Street, Suite 400  
P.O. Box 1507  
Madison, WI 53701-1507  
U.S.A.  
Phone: (608)257-7766  
Fax: (608)257-1507